Application Number 10/601,131
Amendment in response to Office Action mailed March 6, 2008

REMARKS

This Amendment is responsive to the Office Action dated March 6, 2006. Applicant has amended claims 1-3, 5-9, 11, 13, 15, 16, 18-20, 22-26, 28, 30, 32-40, 42-44, 47, 48, 50-53, 56, 57, 59, 60, 62, 65 and 66. Applicant has canceled claims 10, 27, 41, 45, 46, 54, 55, 63, 64 and 67-92. Applicant has added new claims 93-98. Claims 1-9, 11-26, 28-40, 42-44, 47-53, 56-62, 65, 66 and 93-98 are pending.

Claim Objections

In the Office Action, the Examiner objected to claims 6, 20, 27, 32, 34 and 52 as containing typographical and clerical errors. Applicant has amended claims 6, 20, 32, 34 and 52 for to correct the identified errors. These amendments are for reasons unrelated to the patentability of claims 6, 20, 27, 32, 34 and 52, and that the scope of these claims has not altered by the amendments. Applicant has canceled claim 27 for reasons unrelated to this objection, or its patentability, rendering the objection to claim 27 moot. Applicant respectfully requests withdrawal of these objections.

Claim Rejections Under 35 U.S.C. § 101 and 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 33-43 and 62-66 under 35 U.S.C. § 101 as being directed to non-statutory subject matter, and under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. More particularly, the Examiner argued that it was unclear how a medium "can just comprise instructions," and that a medium that "is just instructions" fails to fall within a statutory category under section 101.

Applicant respectfully disagrees with these arguments, and traverses these rejections – particularly to the extent that they are considered applicable to claims 33-40, 42, 43, 62, 65 and 66, as amended. Applicant has canceled claims 41, 63 and 64 for reasons unrelated to this rejection or their patentability, rendering their rejections moot. A computer-readable storage medium, as recited by claims 33-40, 42, 43, 62, 65 and 66, as amended, is a manufacture, and therefore is statutory subject matter. Furthermore, a person of ordinary skill in art would be able to ascertain the scope of the claims as encompassing any computer-readable storage medium

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comprising instructions that cause a programmable processor to perform the functions recited in the bodies of the claims.

The Examiner argued that a medium may have instructions stored or recorded on it, but that it is not clear how a medium can just comprise instructions. Applicant respectfully submits that a medium with instructions stored or recorded on it thereby comprises those instructions. In other words, a "medium comprising instructions," as recited in Applicant's claims, would be understood by a person of ordinary skill in the art to clearly and definitely encompass a medium with instructions stored or recorded thereon.

The Examiner also argued that Applicant's recited media are "just instructions," and that this alleged fact somehow renders Applicant's claims indefinite and non-statutory. Applicant is unclear as to what reasoning or authority supports the Examiner's argument. Applicant's amended claims do not recite disembodied instructions, but instead clearly recite a manufacture, and more particularly a computer-readable storage medium. Furthermore, "comprising" is an open ended term, and therefore the media recited by Applicant's amended claims are not in any way limited to being merely instructions without any structure.

For at least these reasons, Applicant respectfully requests that the rejections of claims 33-40, 42, 43, 62, 65 and 66 under 35 U.S.C. §§ 101 and 112, second paragraph be withdrawn. Applicant submits that claims 33-40, 42, 43, 62, 65 and 66, as amended, recite patentable subject matter and particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim Rejections Under 35 U.S.C. §§ 102 and 103

In the Office Action, the Examiner rejected claims 1, 2, 12-19, 21, 29-34, 43, 44, 51, 53 and 60-62, as previously presented, under 35 U.S.C. § 102(b) as being anticipated by EP 1 134 932 A1 by Hoebeke et al. (Hoebeke). The Examiner rejected claims 3, 20, 35, 45, 46, 54, 55, 63 and 64, as previously presented, under 35 U.S.C. § 103(a) as being unpatentable over Hoebeke in view of US 6,937,608 to Deng (Deng). The Examiner rejected claims 4-7, 9-11, 22-24, 26-28, 26-28, 40-42, 47, 48, 50, 52, 56, 57, 59, 65 and 66, as previously presented, under 35 U.S.C. § 103(a) as being unpatentable over Hoebeke in view of US 6,947,418 to Boura et al. (Boura). The Examiner rejected claims 8, 25, 39, 49 and 58, as previously presented, under 35 U.S.C. § 103(a)

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as being unpatentable over Hoebeke in view of Boura, and further in view of US 6,754,224 to Murphy (Murphy).

Applicant respectfully traverses these rejections to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's amended claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions. Applicant has canceled claims 10, 27, 41, 45, 46, 54, 55, 63 and 64 for reasons unrelated to the patentability of these claims, rendering the rejections of these claims moot.

Claims 1-6, 11-23, 28-37, 42-44, 51-53 and 60-62

As amended, independent claim 1 recites a method comprising receiving a request via a network layer device for activation or modification of a network service account of a subscriber, in response to the request, querying a server for with the network layer device for information relating to a service profile that is associated with the subscriber, and dynamically configuring a control object stored by a data link layer device in accordance with the service profile to control the data link layer device to facilitate packet transmission for the subscriber between the data link layer device and the network layer device in accordance with the service profile. Support for this amendment may be found, for example, in claim 10 as previously presented, which is now canceled. Independent claims 18, 33, 44, 53 and 62 have been similarly amended, and recite similar features. The applied references fail to disclose or suggest the features recited by these independent claims.

For example, the applied references fail to disclose or suggest receiving a request via a network layer device for activation or modification of a network service account of a subscriber, as recited by amended independent claim 1. In rejecting claim 10 as previously presented, which recited a similar limitation, the Examiner argued that receiving an IGMP join request with a network layer device, as taught by Hoebeke, is receiving a request for activation. Applicant respectfully disagrees with this argument.

Amended independent claim 1 does not merely recite a request for "activation," but instead requires a request for activation or modification of a network service account. An IGMP join message, as taught by Hoebeke, requests delivery of a particular multicast stream. Requesting delivery of a multicasting stream is not even requesting "activation" of the stream,

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much less the same as or suggestive of requesting activation or modification of a network service account. An IGMP join request would presumably be made by a subscriber with an activated account, and Hoebeke does not disclose or suggest that processing an IGMP join request with a network layer device would involve any modification of a network service account.

As another example, the applied references fail to disclose or suggest querying a server with the network layer device for information relating to a service profile that is associated with the subscriber in response to the request for activation or modification of the network service account, as recited by amended independent claim 1. The Examiner did not address the similar requirement of claim 10, as previously presented, in the rejection of claim 10. Again, Applicant submits that this requirement is not disclosed or suggested by the applied references. Applicant respectfully requests that the Examiner either provide a reference teaching this requirement and a rationale for one of ordinary skill in the art to have modified Hoebeke to include the requirement, or withdraw the rejections of Applicant's claims that recite this requirement.

Furthermore, the applied references fail to disclose or suggest dynamically configuring a control object stored by a data link layer device in accordance with the service profile to control the data link layer device to facilitate packet transmission for the subscriber between the data link layer device and the network layer device in accordance with the service profile, as required by amended independent claim 1. In rejecting claim 10, as previously presented, the Examiner argued that it would have been obvious to combine the replication teachings of Boura with the multicast teachings of Hoebeke in order to provide replication in accordance with QoS requirements. However, even if the CPNT of the Hoebeke system were modified to meter and replicate packets according to the teachings of Boura, the modified system would still fail to meet the requirements of amended independent claim 1.

Hoebeke teaches that a NAS may control the distribution of multicast packets from a CPNT to subscribers. However, Hoebeke does not disclose or suggest that he NAS controls the manner in which the CPNT facilitates packet transmission for a subscriber between the CPNT and the NAS. Thus, Hoebeke fails to disclose or suggest dynamically configuring a control object stored by a data link layer device in accordance with the service profile to control the data link layer device to facilitate packet transmission for the subscriber between the data link layer device and the network layer device in accordance with the service profile, as recited by claim 1.

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Furthermore, Hoebeke does not even mention QoS, much less disclose suggest that the NAS controls any aspect of provision of a QoS by the CPNT.

Boura teaches that a meter may be used in switching system to ensure that data units conform to a QoS criteria. However, Boura does not suggest that the metering is controlled by another device, much less controlled by a network layer device through dynamic configuration of a control object stored by the switching system. Thus, even if the Hoebeke CPNT were modified to include the Boura meter, the modified system would still fail to meet the requirement of claim 1 of dynamically configuring a control object stored by a data link layer device in accordance with the service profile to control the data link layer device to facilitate packet transmission for the subscriber between the data link layer device and the network layer device in accordance with the service profile. There is no teaching in Hoebeke or Boura suggesting further modification of the Hoebeke CPNT such that the metering would be controlled by the NAS through dynamic configuration of a control object stored by the CPNT according to a service profile for subscriber.

As another example, the applied references fail to disclose or suggest that receiving a request for activation of an account comprises receiving a message indicating physical connection of a customer premises equipment to a network, as recited by dependent claim 11, or the similar requirements of dependent claims 28 and 42. None of the applied references even mentions physical connection of a customer premises equipment to a network, and the Examiner failed to even address the requirements of claims 11, 28 and 42. Applicant respectfully requests that the Examiner either provide a reference teaching this requirement and a rationale for one of ordinary skill in the art to have modified Hoebeke to include the requirement, or withdraw the rejections of claims 11, 28 and 42.

As another example, the applied references fail to disclose or suggest that dynamically configuring a control object stored by a data link layer device comprises sending a control message from a network layer device to the data link layer device via a virtual local area network that is reserved for transmission of the control message, as required by amended dependent claim 13, or the similar requirements of amended dependent claim 30. As acknowledged by the Examiner, Hoebeke teaches a virtual circuit channel. Neither Hoebeke, nor the other cited references, teaches sending a control message from a network layer device to the data link layer device via a virtual local area network.

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As another example, the applied references fail to disclose or suggest replicating a requested multicast stream at replicating the requested multicast stream at the network layer device on a per data link layer device basis when the requested multicast stream is premium, and replicating the requested multicast stream at the network layer device on a per subscriber basis when the requested multicast stream is non-premium, as recited by amended dependent claim 6, or the similar requirements of amended dependent claims 23 and 37. In rejecting these claims, the Examiner argued that the teachings in Boura relating to different QoS classes for different streams by a switch was a teaching regarding differential treatment for premium multicast streams. However, both Boura and Hoebeke are focused on multicast replication in a data link layer device, and neither suggests that a network layer device will replicate streams on a per data link layer device basis for premium streams and a per subscriber basis for non-premium streams.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 1-6, 11-23, 28-37, 42-44, 51-53 and 60-62 under 35 U.S.C. §§ 102(b) or 103(a). Withdrawal of these rejections is requested.

Claims 7-9, 24-26, 38-40, 47-50, 56-59, 65 and 66

Applicant amended claim 7 as previously presented to present the claim in independent form. As amended, independent claim 7 requires receiving a request via a network layer device for transmission of packets according to a quality of service class from a subscriber device, and dynamically configuring a quality of service profile stored by a data link layer device for a layer-2 link between the data link layer device and the subscriber device with the network device to control the data link layer device to forward packets for the subscriber device via the layer-2 link according to the quality of service profile to facilitate packet transmission according to the requested quality of service class. Independent claims 24, 38, 47, 56 and 65 have been similarly amended and recited similar limitations. The applied references fail to disclose or suggest the requirements of amended independent claims 7, 24, 38, 47, 56 and 65.

The Examiner rejected these claims on essentially the same basis as dependent claim 10 (discussed above with respect to independent claims 1, 18, 33, 44, 53 and 62), i.e., argued that it would have been obvious to combine the replication teachings of Boura with the multicast teachings of Hoebeke in order to provide replication in accordance with QoS requirements. As was the case with respect to the other independent claims, even if the CPNT of the Hoebeke

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system were modified to meter and replicate packets according to the teachings of Boura, the modified system would still fail to meet the requirements of amended independent claims 7, 24, 38, 47, 56 and 65.

Hoebeke teaches that a NAS may control the distribution of multicast packets from a CPNT to subscribers. However, Hoebeke does not even mention QoS, much less disclose suggest that the NAS controls any aspect of provision of a QoS by the CPNT. Boura teaches that a meter may be used in switching system to ensure that data units conform to a QoS criteria. However, Boura does not suggest that the metering is controlled by another device, much less controlled by a network layer device through dynamic configuration of a control object stored by the switching system. Thus, even if the Hoebeke CPNT were modified to include the Boura meter, the modified system would still fail to meet the requirement of Applicant's claims of dynamically configuring a quality of service profile stored by a data link layer device for a layer-2 link between the data link layer device and the subscriber device with the network device to control the data link layer device to forward packets for the subscriber device via the layer-2 link according to the quality of service profile to facilitate packet transmission according to the requested quality of service class. There is no teaching in Hoebeke or Boura suggesting further modification of the Hoebeke CPNT such that the metering would be controlled by the NAS through dynamic configuration of a control object stored by the CPNT according to a quality of service profile stored by CPNT for a link between the CPNT and the subscriber device.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 7-9, 24-26, 38-40, 47-50, 56-59, 65 and 66 under 35 U.S.C. § 103(a). Withdrawal of these rejections is requested

New Claims:

Applicant has added claims 93-98 to the pending application. The applied references fail to disclose or suggest the inventions defined by Applicant's new claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions. No new matter has been added by the new claims.

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CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

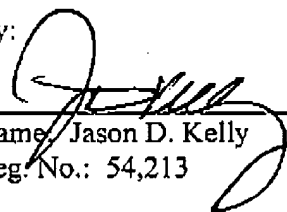Date: By:

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